

We claim:

1. A process for producing paper with mechanically processed waste cellulose acetate fiber, comprising the steps of:

(a) providing a raw material in the form of waste long staple or continuous filament cellulose acetate fibers;

(b) mechanically shredding the waste cellulose acetate to a fiber length of less than about 14 mm;

(c) mixing the shredded waste cellulose acetate with cellulose to form a slurry; and

(d) making paper from the slurry.

2. The process of claim 1 wherein the waste cellulose acetate fiber contains substantial crimp.

3. The process of claim 2 wherein the crimp is produced by mechanical interfiber plasticizer bond separation due to shredding.

4. The process of claim 3, and further comprising the step of repulping the mechanically shredded cellulose acetate and cellulose with water.

5. The process of claim 4, and further comprising the step of repulping is conducted with periodic or continuous high shear agitation.

6. The process of claim 5, and further comprising the step of confricating or mechanically refining the aqueous mixture of cellulose acetate and cellulose.

7. The process of claim 6, and further comprising the step of blending the aqueous mixture of cellulose acetate and cellulose with paper manufacturing fillers and sizes.

8. The process of claim 7 wherein the paper comprises between about 90 and about 99% by weight of cellulose and between about 1 and about 10% percent by weight of cellulose acetate fiber having a length of less than about 14 mm.

9. The process of claim 1 or 8, and including the steps of:

(a) forming the paper product into a continuous paper web with a weight of about 15-40 grams/meter<sup>2</sup>; and

(b) fabricating the paper web into cigarette filter tips.

10. A process of claim 1 or 8, and including the steps of:
  - (a) forming the paper product into a continuous paper web weighing 200-800 grams/meter<sup>2</sup>; and
  - (b) fabricating the paper web into absorbent paper products selected from the group consisting of feminine hygiene articles, adult incontinent diapers and infant diapers.
11. The product formed according to the process of claim 9.
12. The product formed according to the process of claim 10.